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## Polymer films as acoustic matching layers

Hadimioglu, B. Khuri-Yakub, B.T.

XEROX Palo Alto Res. Center, CA, USA ;

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### Abstract:

Polymer films such as polyimide and Parylene were investigated as acoustic matching layers at frequencies in the 100-200-MHz range. Polyimide films were spin coated and Parylene films were vapor deposited on silicon and glass substrates, respectively. The curing temperature of the polyimide films was also varied to determine the dependence of the material properties on processing conditions. The impedance of the films were measured to be in the 2.7 to 3.7 **Mrayl** range. The measurements indicate that these films promise good transmission efficiencies between most liquids and especially low impedance solids such as silicon, glass, and quartz.

### Index Terms:

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